

EARLY COMPLICATIONS OF MODIFIED RADICAL MASTECTOMY WITH AXILLARY CLEARANCE

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ABSTRACT

Objective: To determine the pattern of early complications following modified radical mastectomy with axillary clearance for established cases of early carcinoma of breast.

Material and Methods: This descriptive study was carried out in the Breast Clinic, Surgical "A" Ward, Lady Reading Hospital, Peshawar, from January 01, 2004 to March 31, 2005. The study included female patients with the established diagnosis of early carcinoma of breast (stage I, stage II) and undergoing modified radical mastectomy with axillary clearance. These patients were followed for postoperative complications up to one month in the Breast Clinic on out patient basis.

Results: During the study period, 154 patients underwent modified radical mastectomy with axillary clearance as per inclusion criteria. Average age of the patients was 47.32 ± 13.53 SD. Early complications were evaluated. Seroma formation was most common complication that occurred in 59 (38.3%) patients followed by edema of arm observed in 40(26%) patients. Wound infection was noticed in 19(12.3%) patients, paraesthesia due to damage of the intercostobranhial nerve in 15(9.7%) patients, haemorrhage in 6(3.9%) patients, haematoma in 6(3.9%) patients and skin flap necrosis was observed in 6(3.9%) patients. Seratus anterior muscle paralysis and Latissimus dorsi muscle paralysis were found in 3(1.9%) patients.

Conclusion: Seroma formation, wound infection, edema of arm, paresthesia due to intercostobranhial nerve involvement, haematoma, skin flap necrosis and muscular paralysis of seratus anterior are early complications of modified radical mastectomy with axillary dissection that may be detected early through proper postoperative care.

Key Words: Early Complications, Modified Radical Mastectomy, Carcinoma Breast.

INTRODUCTION

Breast cancer is the most common cancer in women.¹ It is the 2nd most common cause of death from cancer among females.² In England, Wales has the highest mortality for breast cancer (27.7 per 100,000 population).³ Women of South Korea ranked lowest among all nations, with an incidence of 2.6 cancers per 100,000 population.⁴ The incidence of new cases has been steadily increasing since the mid-1940s.⁵ In the 1970s the probability of a woman in the United States developing breast cancer was estimated at 1 in 13; in 1980 it was 1 in 11 and in 1996 the frequency was 1 in 8.⁶

Survival is closely related to the stage at diagnosis.⁷ Five years survival in stage 1, 2, 3 and 4 are 84%, 71%, 48% and 18% respectively.⁸

Success in breast cancer management depends on the development of new diagnostic methods, surgical treatments, histopathological compliance and, of course, new treatment options.⁹ The modern approach to breast cancer management surgery is multidisciplinary.¹⁰ It includes surgery, radiotherapy, hormonal therapy and chemotherapy.¹¹ The type of surgery depends on the stage of the breast cancer at the time of initial presentation, patient's preference and surgeon's choice.¹²

The different surgical treatment options available include simple mastectomy, modified radical mastectomy and breast conservation surgery.¹³ Among these procedures, modified radical mastectomy with axillary clearance is the most commonly performed procedure (in about 70% women.) It is associated with significant

AGE DISTRIBUTION OF PATIENTS UNDERGOING MODIFIED RADICAL MASTECTOMY WITH AXILLARY CLEARANCE

S.No	Age (years)	Number of Patients (n=154)	Percentage
1	25-35	34	22.1
2	36-45	28	18.2
3	46-55	43	27.9
4	56-65	31	20.1
5	66-74	18	11.7

Table 1

morbidity and mortality.

The present study was undertaken to identify the pattern of early complications following modified radical mastectomy with axillary clearance for established cases of early carcinoma of breast in our set up.

MATERIAL AND METHODS

This was a descriptive study which was conducted at Breast clinic, surgical "A" ward LRH Peshawar from January 01, 2004 to March 31, 2005.

The inclusion criteria of this study was female patients presenting in the Breast Clinic, Surgical "A" Ward LRH Peshawar, with the established diagnosis of early carcinoma of breast (stage I, stage II) and undergoing modified radical mastectomy with axillary clearance.

The exclusion criteria were: Patients undergoing the following procedures:

An axillary dissection without breast excision.

Patients with haematoma, infection or wound dehiscence present at the former biopsy site or breast lesion pre-operatively.

Patients with psychiatric or psychological abnormalities.

After taking an informed consent a detailed history of every patient was taken, the patients were examined clinically and their baseline investigations were done. Abdominal ultrasound and bone scans were advised for patients with suspicion of distant metastasis. The diagnosis of breast cancer was confirmed in patients, either by FNAC or by open biopsy. All these patients underwent modified radical mastectomy with axillary clearance and were followed up for postoperative complications for one month in the Breast Clinic on OPD basis. A special proforma was designed and all the above findings were recorded in it.

After collecting the data, it was analyzed by using SPSS version- 10 on computer.

Descriptive statistics like mean \pm SD, frequency, percentage, average and range were computed for data. Statistical test was not applicable for this observational descriptive type study.

RESULT

During the study period, Twelve hundred patients were seen in the Breast Clinic. Among them, 154 patients underwent modified radical mastectomy with axillary clearance as per inclusion criteria. The final sample size for a representative study was 154 cases, based on non-probability purposive sample technique.

Average age of the patients was 47.32 ± 13.53 . Age distribution is given in Table 1.

Marital status of the patients showed that 25 (16%) patients were unmarried and the rest of 129 (84%) were married. The average duration of marriage was 23.33 ± 13.6 yeras (ranging from 2 to 56) years. Median duration of marriage was computed 25 years.

Family history of breast disease was found in 40 (26%) patients, 108 (70%) patients had been breast feeding.

Seroma formation was most common complication that occurred in 59 (38.3%) patients followed by edema of arm observed in 40(26%) patients. Wound infection was noticed in

EARLY COMPLICATIONS OF MODIFIED RADICAL MASTECTOMY

Complications	Number of Patients (n=154)	Percentages
Seroma	59	38.3
Edema of arm	40	26
Wound infection	19	12.3
Paraesthesia	15	9.7
Haematoma	6	3.9
Haemorrhage	6	3.9
Skin flap necrosis	6	3.9
Muscle paralysis	3	2

Table 2

19(12.3%) patients and paraesthesia due to damage of the intercostobronchial nerve in 15(9.7%) patients. Details of the early complications are presented in Table 2.

DISCUSSION

Modified radical mastectomy with axillary clearance is the most commonly procedure performed in patients with ca Breast.¹⁴ Like every surgical procedure this procedure also has significant morbidity and mortality.

The morbidity includes early and late complications. Early complications include haemorrhage, haematoma, seroma, wound infection, skin flap necrosis, paresthesia, edema of arm, and muscle paralysis. Late complications include shoulder stiffness, brachial plexopathy and psychosexual disturbances.

The most common complication in our study was seroma formation which was observed in 59 (38.3%) patients, while in literature the published rate of seroma formation varies between 4.2% and 89% in undrained axilla and as high as 53% in drained axilla¹⁵. Woodworth PA et al observed seroma 2.5 to 51%.⁶ The overall seroma rate was 15.8% in study by Gonzalez EA et al.⁷

The seroma formation can be prevented by insertion of suction drain deep to mastectomy flaps in the axilla.¹⁶ The seroma in our study was easily managed with aspiration and pressure.

The second common complication which was observed in our study was lymph edema of the arm. This complication was observed in 40 (26%) of patients. This is comparable with the study by Ozaslon C, Kurb B¹⁷ which shows lymph edema in 28% of patients. Another study by Beaulac SM et al¹⁸ shows lymph edema in 27.8% of the patients.

The wound infection occurred in 19 (12.3%) of our patients. The literature shows the incidence of wound infection in 3.6% of patients in a study by Lang C J.¹⁹ In another study by Lefebvre D et al,²⁰ the overall wound infection rate was 3.51%. The increased number of wound infection in our patients, was due to factors associated with patients and hospital, like malnutrition, improper hygiene of patient, improper sterilization, the drain and wound care. These patients were treated with antibiotics according to culture and sensitivity report and sterilized daily dressing.

Paresthesia is generally attributed to the sacrifice of intercostobronchial nerve, which can be preserved in about 65% of the patients. In this study it was observed in 15 (9.7%) patients. Abdullah TI²¹ reported paresthesia in 14.3%

patients.

Haematoma usually occurs as a result of improper haemostasis. It is avoided by fixation of flaps and suction catheter drainage. In this study it was observed in 6(3.9%) patients. Kang BJ²² reported hematoma in 5% patients. Brown MH²³ reported hematoma in 0.85% patients. This large difference is due to small sample size of Brown MH study as compared to this study.

Skin flap necrosis can occur if the skin is fixed under tension. It can lead to skin loss and may need grafting to cover the defect. In our study skin flap necrosis occurred in 6(3.9%) patients. Mizuno H²⁴ reported skin flap necrosis in 7.9% of patients and Bernard RW²⁵ reported 9.52%. This large difference is due to small sample size of Bernard RW study as compared to this study.

Muscle paralysis can occur due to injury to long thoracic nerve supplying Serratus anterior muscle causing winged scapula. This study showed paralysis of Serratus anterior muscle in 3 (2%) patients. Abdullah TI²¹ reported muscle paralysis in 2.2% of patients.

CONCLUSION

Seroma formation, wound infection, edema of arm, paraesthesia due to intercostobronchial nerve involvement, haematoma, skin flap necrosis and muscular paralysis of seratus anterior muscle are early complications of modified radical mastectomy with axillary dissection that can be detected early through proper postoperative care.

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